



Grand Challenges for NIST

Visiting Committee on Advanced Technology

Environmental Assumptions

- Increased emphasis on counter-terrorism and homeland security (for at least several years).
- Increased emphasis on performance and accountability throughout government.
- Relatively flat budgets with stronger links between performance and budget.
- Need to build or increase competency in certain key technology areas.
- Need to address key workforce issues.
 - Diversity
 - Recruitment
 - Retention
 - Safety
 - Attractive workplace (compensation plus culture)

NIST Responses

Pre-eminent performance

- Accountability to our external stakeholders and internally to ourselves.
- Address key national needs through service to industry and other agencies.
- Develop meaningful metrics for R&D performance.
- Leadership in areas where NIST has unique value.
- Prominent participation in national and global science and technology community.

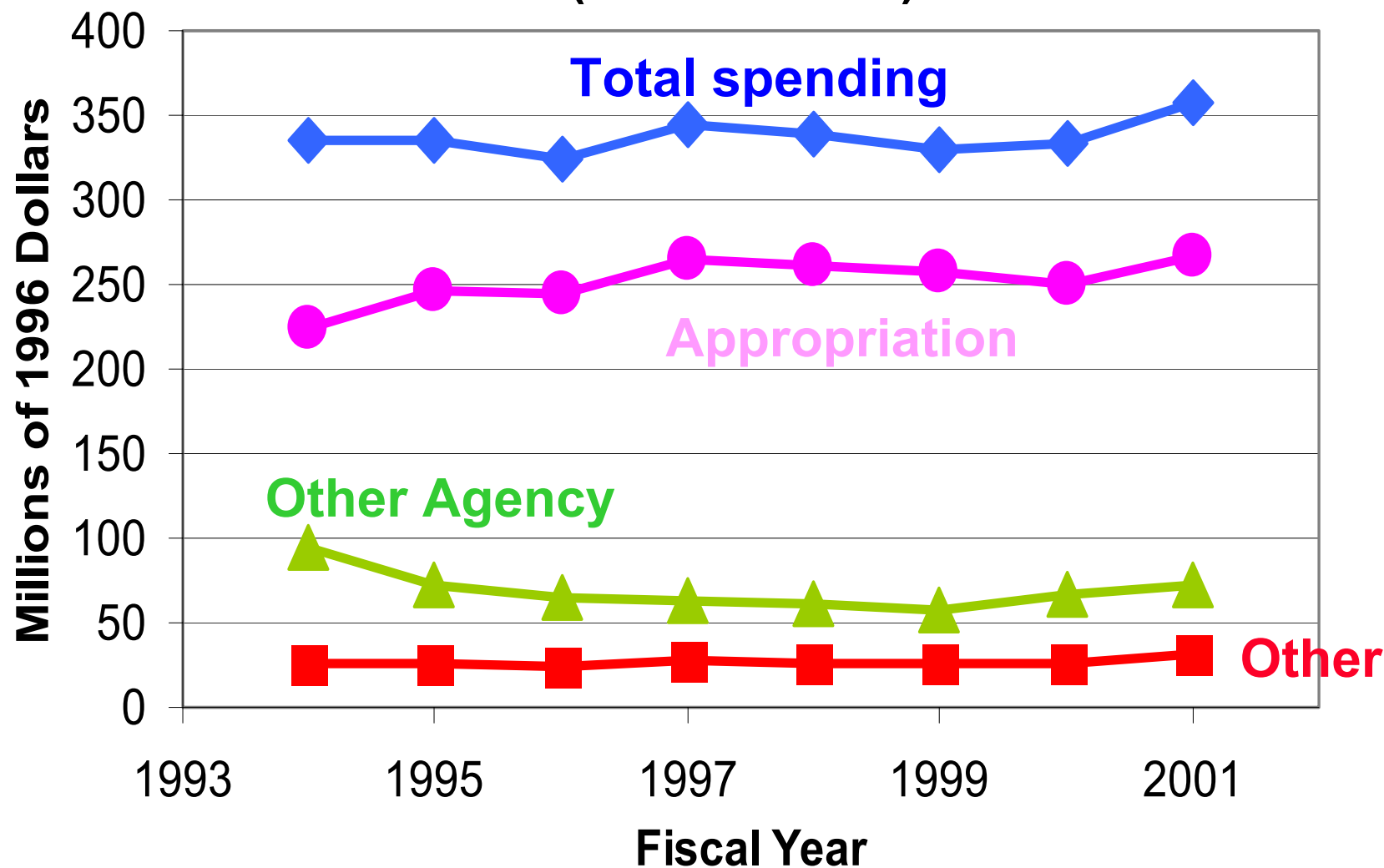
Key Messages

Work in Progress

- Developing key messages as part of NIST 2010 strategic plan.
- Clear and compelling definition of NIST as a national asset.
 - Enhance the cost-effectiveness of R&D.
 - Accelerate technology development.
 - Simplify development of products, processes, discoveries.
- Diversity.
- Safety.
- Communications.

NIST Budget Trends

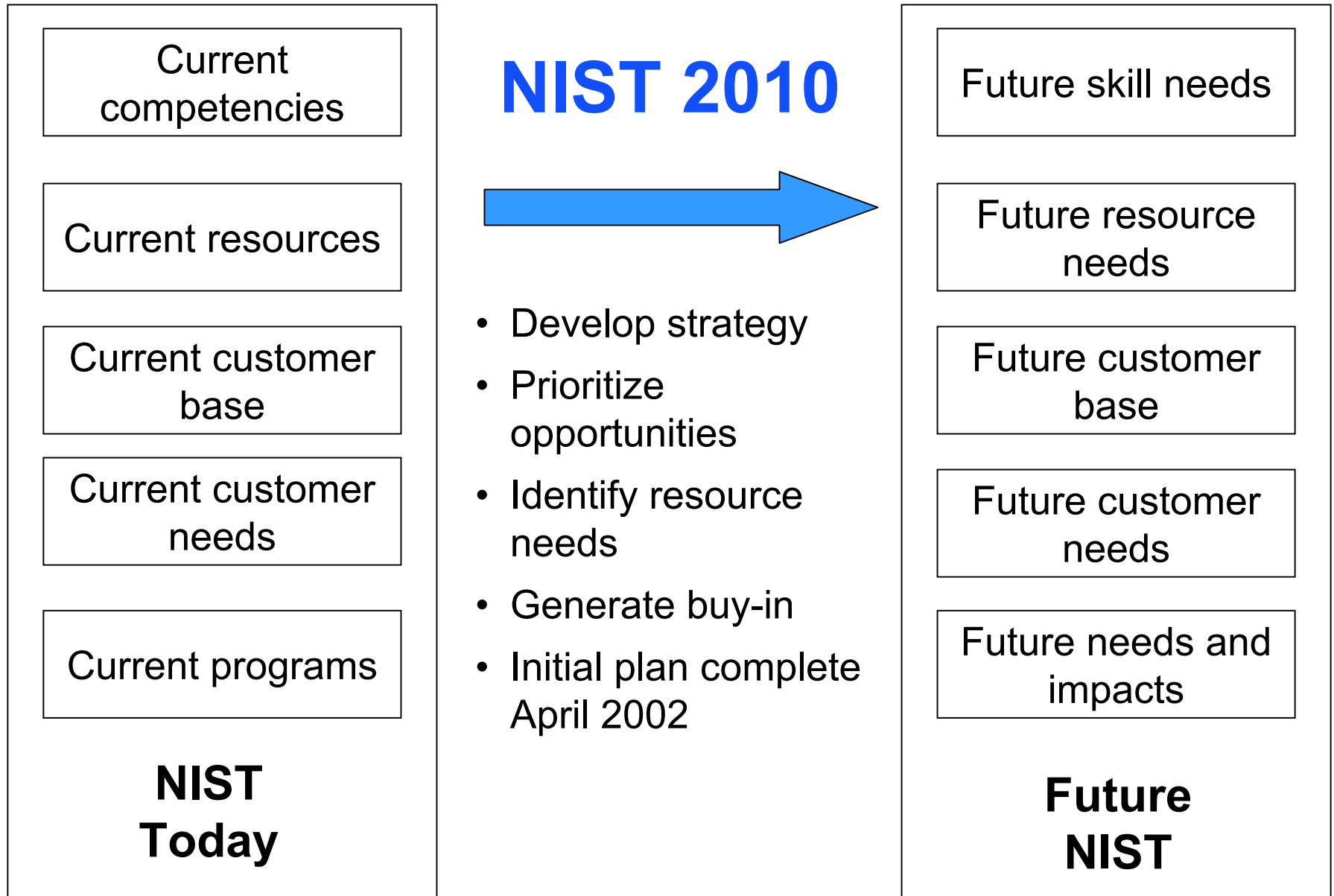
Spending Trends for NIST Laboratories (1996 Dollars)



President's Management Agenda

- Human Capital
- E-Government
- Competitive Sourcing
- Financial Management
- Budget and Performance Integration

Strategic Focus Area Planning Process



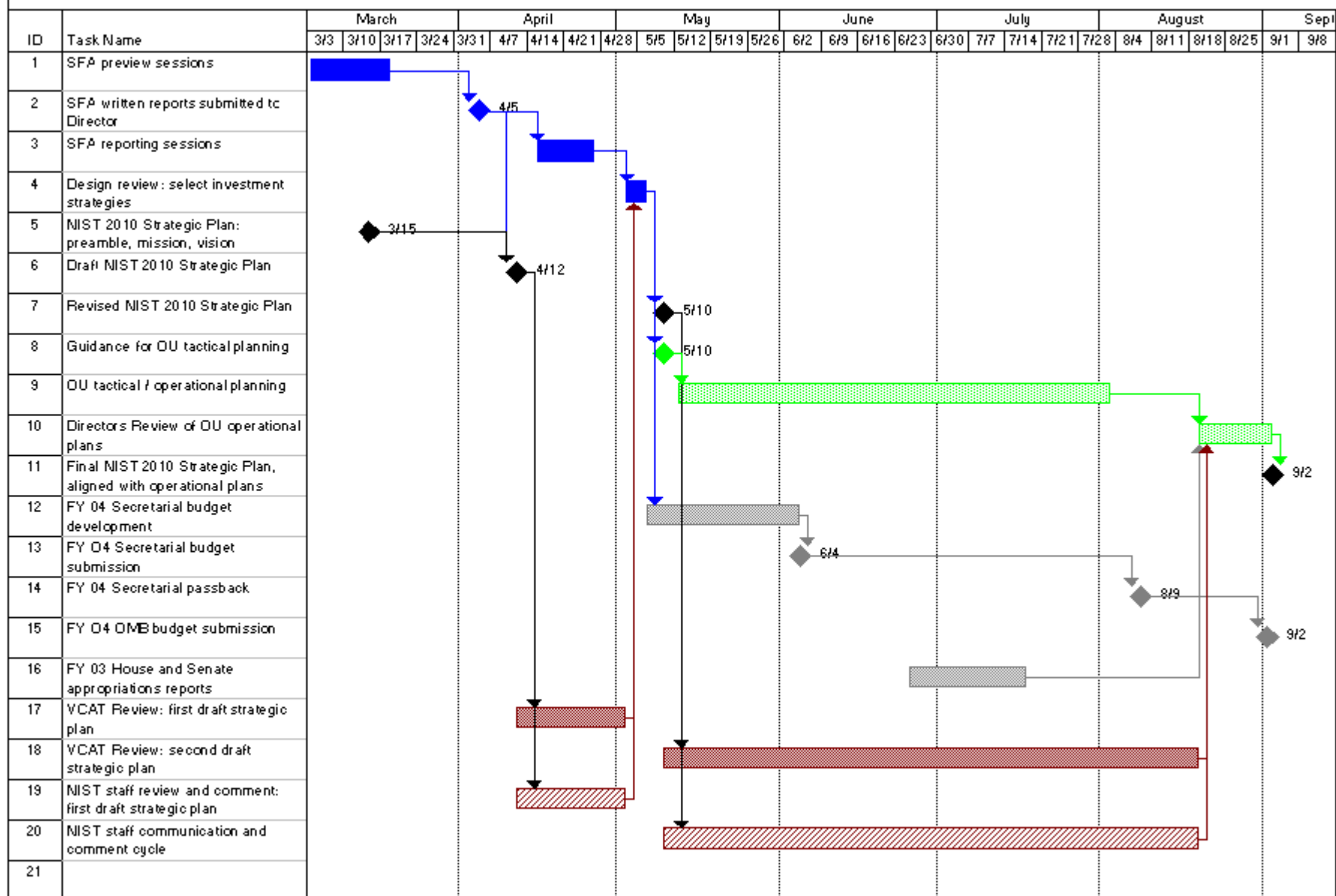
NIST 2010 – Strategic Focus Areas

Programmatic

Organizational

- Homeland Security
 - Health Care
 - Nanotechnology
 - Information Technology / Knowledge Management
 - Strategic Focus Areas – areas for greatest increased impact.
- People
 - Customer Focus
 - IT Infrastructure

NIST 2010: Strategic, Tactical, and Budget Planning Schedule



NIST Organizational Changes

- Re-examining roles of NIST Director and Deputy.
- Reviewing potential organizational changes to improve organizational effectiveness and reduce overhead.
- New management meetings
 - Weekly Directors Meetings
 - Monthly Expanded Directors Meetings
 - Examine issue, identify needs, develop action plans
 - Communications January 28
 - Safety February 25
 - Institute Overhead March 25

NIST Organizational Changes

- **NIST Senior Management Board.**
 - Co-chaired by NIST Director and Deputy. Members include OU Directors, Program Office Director, NIST Counsel.
 - Board to consist of several Councils chaired by a Board member.
 - Councils meet separately from Board, augmented by appropriate resource persons, and report periodically to Board.
- **Councils to include:**
 - Safety Council
 - Diversity Council
 - Strategy Council
 - Laboratory Council
 - IT Council
 - Technical Services Council
 - Others commissioned as needed

NIST Organizational Structure

NIST organizational structure efficiency commensurate with private sector benchmarks



At close of FY2001:

- 3,187 total staff on-board
- About 282 managerial positions (9% of total)
- Staff:manager ratio of 10:1
- 500-600 guest researchers on-board at any given time
- Including guest researchers:
 - Managers represent 8% of total staff
 - Staff:manager ratio is 12:1

Examples of Outreach

Technology Administration Roundtables

- Homeland Security, January 16
- Innovation in America – Corporate R&D, January 24
- Innovation in America – Federal R&D, April 2 (tentative)

NIST “Technologies for Homeland Security” Exhibit.

Uses so far:

- Homeland Security Roundtable, January 16
- DoC Homeland Security Press Event, February 8
- National Association of Counties meeting (Washington, DC), March 4
- League of Cities meeting (Washington, DC), March 9

Examples of Outreach

Congressional member visits

- Sherry Boehlert, Chair, House Science Committee
- Vern Ehlers, Chair, House Science Subcommittee on Environment, Technology, and Standards

Congressional testimony

- World Trade Center Buildings Collapse, March 6
- Government Information Security Reform Act, March 6

Interviews

- New Technology Week, National Journal, Manufacturing News, Washington Times, Federal Technology Report

Partnership with VCAT on Grand Challenges

- In addition to formal VCAT charter.
- Help NIST develop high level messages with the greatest impact on external customers and stakeholders.
 - Clear and compelling description of NIST as a national asset.
- Help NIST better connect to our external constituent base.
- Advise NIST on implementing strategic plan for the highest impact Strategic Focus Areas and other key areas.
- Advise NIST on effective metrics for R&D performance.

Partnership with VCAT on Grand Challenges

- Facilitating NIST partnerships with key federal agencies such as NIH. Examples:
 - Joint postdoctoral program
 - Joint institutes exploring connections between metrology and health care/biotechnology
- Advise NIST on developing new partnership models with universities, industry labs, federal agencies.
 - Example: How might NIST leverage its unique facilities such as the Advanced Measurement Laboratory and the NIST Center for Neutron Research in new ways?
 - VCAT advice on developing “virtual user facilities?”